Status of the Claims

1. (Currently Amended) A device for transmitting optical signals, said device comprising:

a substrate including a channel formed between an optical input and an optical output, the channel confining said optical signals to a predetermined path; and

~~an optical input accepting said optical signals so that the optical signals travel substantially parallel to the substrate~~;

a control device positioned in the channel and coupled to the substrate, the control device directing said optical signals substantially parallel to the substrate between said optical input and ~~an~~ said optical output, and the control device including at least one mirror element having a cantilever~~; and~~

~~a channel located between said optical input and said optical output confining said optical signals to a pre-determined path~~.

2. (Previously Presented) The device of claim 1 wherein said at least one mirror element is configured to reflect said optical signals within said device.

3. (Previously Presented) The device of claim 2 wherein each of said cantilevers has a magnetically sensitive portion and a reflective portion.

4. (Previously Presented) The device of claim 1 wherein said cantilever is configured to be switched between a first state and a second state by one of a plurality of electromagnetic signals.

5. (Previously Presented) The device of claim 4 wherein each of said electromagnetic signals are configured to induce a torque in said cantilevers corresponding to said at least one mirror elements, such that said cantilever is switched between said first state and said second state.

6. (Original) The device of claim 5 wherein said plurality of electromagnetic signals comprise magnetic signals generated by a plurality of conductors.

7. (Original) The device of claim 5 wherein said plurality of electromagnetic signals comprise electrostatic signals generated by a plurality of electrodes.

8. (Original) The device of claim 1 wherein said channel comprises at least one reflective wall.

9. (Previously Presented) The device of claim 8 wherein said reflective wall comprises one of the group consisting of aluminum, gold, silver and chromium.

10. (Original) The device of claim 5 wherein said channel comprises at least one reflective wall.

11. (Previously Presented) The device of claim 10 wherein said reflective wall comprises one of the group consisting of aluminum, gold, silver and chromium.

12. (Original) The device of claim 8 wherein said channel comprises at least one channel mirror configured to receive said optical signal and to direct said optical signal through said channel.

13. (Previously Presented) The device of claim 10 wherein said channel comprises at least one channel mirror in optical communication with one of said at least one mirror element, wherein said channel mirror is configured to receive said optical signal and to direct said optical signal through said channel.

14. (Currently Amended) A method comprising:

forming channels between optical inputs and optical outputs of a substrate;

conducting an optical signal substantially parallel to the substrate within at least one of the channels between a first one of the optical inputs and at least one of the optical outputs;

forming a reflective portion on a switching element that is located within the at least one of the channels and that is coupled to a the substrate, the switching element comprising a cantilever;

~~conducting an optical signal substantially parallel to the substrate through channels that confine said optical signal to predetermined paths;~~ and

switching said cantilever such that said reflective portion is placed in the path of said optical signal when said optical signal is desired at a first one of the optical outputs ~~output on a first one of the predetermined paths,~~ and such that said reflective portion is placed out of the path of said optical signal when said optical signal is desired at a second one of the optical outputs ~~output on a second one of said predetermined paths~~.

15. (Previously Presented) The method of claim 14 wherein said channels comprise a reflective wall.

16. (Original) The method of claim 15 wherein said conducting step comprises directing said optical signal away from said reflective wall with a channel mirror.

17. (Original) The method of claim 15 wherein said cantilever is configured to be switched by one of a plurality of electromagnetic signals.

18. (Original) The method of claim 17 wherein said electromagnetic signals produce a magnetic torque in said cantilever.

19. (Original) A switch configured to execute the method of claim 15.

20. (Original) A switch configured to execute the method of claim 18.

21. (Currently Amended) A system for transmitting optical signals, comprising:

a substrate including a waveguide formed between an optical input and an optical output, ~~an optical input accepting the optical signals~~; and

a control device positioned within the waveguide and coupled to the substrate, the control device including,

a cantilever having a reflective portion that directs the optical signals between the optical input and ~~an~~ the optical output,

a permanent magnet, and

a conductor that moves the control device between first and second positions each time energy passes through the conductor~~; and~~

~~a waveguide located between the optical input and the optical output confining the optical signals to a pre-determined path~~.

22. (Previously Presented) The system of claim 21, wherein the control device is moved between the first and second positions using electromagnetic or electrostatic signals.

23. (Currently Amended) A method for transmitting optical signals, comprising:

receiving the optical signals at an optical input of a waveguide located on a substrate between the optical input and an optical output;

directing the optical signal from the optical input to ~~an~~ the optical output using a control device positioned within the waveguide and coupled to the substrate, the control device having a cantilever with a reflective portion, a permanent magnet, and a conductor that moves the control device between first and second positions each time energy passes through the conductor; and

confining the optical signals to a predetermined path in ~~a~~ the waveguide ~~positioned between the optical input and the optical output~~.

24. (Previously Presented) The method of claim 23, wherein the control device is moved between the first and second positions using electromagnetic or electrostatic signals.